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**west virginia** department of environmental protection

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Office of Oil and Gas  
601 57th Street SE  
Charleston, WV 25304  
(304) 926-0450  
(304) 926-0452 fax

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
www.dep.wv.gov

May 15, 2014

**WELL WORK PERMIT**

**Re-Work**

This permit, API Well Number: 47-3902727, issued to SHALE GAS PRODUCTION, LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto.

Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

James Martin  
Chief

Operator's Well No: W.H. LAWRENCE #1  
Farm Name: LAWRENCE, MARY LEE  
**API Well Number: 47-3902727**  
**Permit Type: Re-Work**  
Date Issued: 05/15/2014

# PERMIT CONDITIONS

West Virginia Code § 22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

## CONDITIONS

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1. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6-20, which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
2. Pursuant to 35 CSR § 4-19.1.a, at the request of the surface owner all water wells or springs within 1000 feet of the proposed well that are actually utilized for human consumption, domestic animals or other general use shall be sampled and analyzed.
3. Pursuant to 35 CSR § 4-19.1.c, if the operator is unable to sample and analyze any water well or spring within one thousand (1,000) feet of the permitted well location, the Office of Oil and Gas requires the operator to sample, at a minimum, one water well or spring located between one thousand (1,000) feet and two thousand (2,000) feet of the permitted well location.
4. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
5. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
6. During the surface casing and cementing process, in the event cement does not return to the surface, or any other casing string that is permitted to circulate cement to the surface and does not return to the surface, the oil and gas inspector shall be notified within twenty-four (24) hours.
7. Well work activities shall not constitute a hazard to the safety of persons.

WW - 2B  
(Rev. 8/10)

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

1) Well Operator: Shale Gas Production, LLC 39 09 551

	494508232	Kanawha	Union	Pocatalico
	Operator ID	County	District	Quadrangle

2) Operator's Well Number: W.H. Lawrence #1      3) Elevation: 936

4) Well Type: (a) Oil \_\_\_\_\_ or Gas  \_\_\_\_\_  
 (b) If Gas: Production  / Underground Storage \_\_\_\_\_  
 Deep \_\_\_\_\_ / Shallow  \_\_\_\_\_

5) Proposed Target Formation(s): Brown Shale      Proposed Target Depth: 4290

6) Proposed Total Depth: 4290 Feet      Formation at Proposed Total Depth: Brown Shale

7) Approximate fresh water strata depths: Existing well-See Attached

8) Approximate salt water depths: Existing well-See Attached

9) Approximate coal seam depths: Existing Well

10) Approximate void depths,(coal, Karst, other): Existing Well

11) Does land contain coal seams tributary to active mine? None known

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed)

Remove existing 2 3/8" tubing. Clean out well using 6 1/2" bit to original TD. Install and cement 4 1/2" casing. Nitrogen gas frac. Original well drilled and shot in 1975. Has existing 9 5/8" and 7" casing (See attached well record).

*Amey W. Hata*  
5.2.14

13) **CASING AND TUBING PROGRAM**

TYPE	SPECIFICATIONS			FOOTAGE	INTERVALS	CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)
Conductor						
Fresh Water	9 5/8"	H-40	32#	234	Existing	CTS
Coal						
Intermediate	7"	K-55	20#	2505	Existing	200 cu ft.?
Production	4.5"			4290	New	120 sks.?
Tubing	2 3/8"	J-55	4.6#	4290	Existing	will cement 100ft into
Liners						

**Received**

MAY - 6 2014

*CSG*

Packers: Kind: Original Packers have been removed

Sizes: \_\_\_\_\_

Depths Set \_\_\_\_\_



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES

Oil and Gas Division

WELL RECORD

Rotary  Oil \_\_\_\_\_  
Cable \_\_\_\_\_ Gas   
Recycling \_\_\_\_\_ Comb. \_\_\_\_\_  
Water Flood \_\_\_\_\_ Storage \_\_\_\_\_  
Disposal \_\_\_\_\_ (Kind) \_\_\_\_\_

Quadrangle Charleston, N.W.

Permit No. Kan. 2727

Company Ajax Pipe Line Company  
Address P.O. Box 6190 Charleston, W. Va  
Farm W. H. Lawrence Acres 88.25  
Location (waters) Left Fork Kanawha "Two Mile  
Well No. 1 Elev. 931.4  
District Union County Kanawha  
The surface of tract is owned in fee by \_\_\_\_\_  
W. H. Lawrence  
Address Rt. 1 Box 126 B Charleston  
Mineral rights are owned by same  
Address \_\_\_\_\_  
Drilling Commenced December 31, 1975  
Drilling Completed January 24, 1976  
Initial open flow 30,000 cu. ft. \_\_\_\_\_ bbls.  
Final production 75,000 cu. ft. per day \_\_\_\_\_ bbls.  
Well open \_\_\_\_\_ hrs. before test 450 RP.  
Well treatment details:

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size			
20-16			
Cond.			
13-10"			
9 5/8 32'	234	234	Surface
8 5/8			
7 20"	2505	2505	
5 1/2			
4 1/2			
3			
2 4.60'	4290	4290	
Liners Used			

Attach copy of cementing record.

sect 990' with 6000' 30% cell

Coal was encountered at None Feet \_\_\_\_\_ Inches \_\_\_\_\_  
Fresh water 110 Feet \_\_\_\_\_ Salt Water 1485 Feet \_\_\_\_\_  
Producing Sand Brown Shale Depth 4210

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Top Soil			0	10		
Red Clay			10	90		
Soap Stone. Gray			90	200		
Red Rock			200	375		
Soap Stone. Gray			375	575		
Sand			575	600		
Red Rock			600	955		
Sand			955	1225		show of Gas 1225
Salt Sand			1225	1575		
Sand, Slate			1575	1600		
Sand			1600	1840		
Big Lagen Lime			1840	1960		
Big Lagen Limestone			1960	2010		
Sand, Slate			2010	2438		
Berea			2438	2451		
Cell			2451	2530		
Sand			2530	2800		
Gordon Sand			2800	2815	Gas	
Slate, Shale, Gray.			2815	3254		
Brown Shale			3254	4240	Gas	
Black Shale			4240	4245		
Shale			4245	4290	T.D.	

Received

MAY - 6 2014

Office of Oil and Gas  
WV Dept. of Environmental Protection

05/16/2014

(over)

\* Indicates Electric Log tops in the remarks section.

WW-2A  
(Rev. 6-07)

1.) Date: \_\_\_\_\_  
2.) Operator's Well Number \_\_\_\_\_ W.H. Lawrence #1  
State County Permit  
3.) API Well No.: 47- 39 - 2727

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE AND APPLICATION FOR A WELL WORK PERMIT

CK# 9642  
\$ 650.00

4) Surface Owner(s) to be served: (a) Name Mary Lee Lawrence W Address 136 Canterbury Woods Drive Charleston, WV 25312 (b) Name Address (c) Name Address  
5) (a) Coal Operator Name Address (b) Coal Owner(s) with Declaration Name Address (c) Coal Lessee with Declaration Name Address  
6) Inspector Terry Urban Address P.O. Box 1207 Charleston, WV 25045 Telephone 304-549-5915

**TO THE PERSONS NAMED ABOVE TAKE NOTICE THAT:**

Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas  
OR  
 Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)

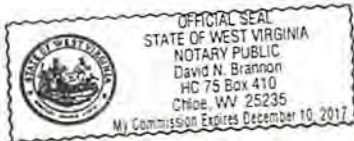
I certify that as required under Chapter 22-6 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through \_\_\_ on the above named parties by:

- Personal Service (Affidavit attached)
- Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

I have read and understand Chapter 22-6 and 35 CSR 4, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



Well Operator Shale Gas Production, LLC  
By: [Signature] Managing Member  
Address 929 Charleston Road Spencer, WV 25276  
Telephone 304-927-5228

Subscribed and sworn before me this 29<sup>th</sup> day of April, 2014

David N. Brannon Notary Public

My Commission Expires December 10, 2017

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov)

Received  
MAY - 6 2014  
Office of Oil and Gas  
WV Department of Environmental Protection

05/16/2014

SURFACE OWNER WAIVER

County Kanawha

Operator Shale Gas Production, LLC
Operator well number W.H. Lawrence #1

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW2-A

The well operator named on page WW2A is applying for a permit from the State to do oil or gas well work. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.

WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

Time Limits and methods for filing comments. The law requires these materials to be served on or before the date the operator files his Application. You have FIFTEEN (15) DAYS after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure a adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Comments must be in writing. Your comments must include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

- The Chief has the power to deny or condition a well work permit based on comments on the following grounds:
1) The proposed well work will constitute a hazard to the safety of persons.
2) The soil erosion and sediment control plan is not adequate or effective;
3) Damage would occur to publicly owned lands or resources;
4) The proposed well work fails to protect fresh water sources or supplies;
5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation...

If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.

List of Water Testing Laboratories. The Office maintains a list of water testing laboratories which you can hire to test your water to establish water quality prior to and after drilling. Contact the Chief to obtain a copy.

VOLUNTARY STATEMENT OF NO OBJECTION

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application for a Well Work Permit on Form WW2-A, and attachments consisting of pages 1 through \_\_\_ including a work order on Form WW2-B, a survey plat, and a soil and erosion plan, all for proposed well work on my surface land as described therein.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

Mary Lee Lawrence Signature Date 5/12/14

Company Name By Its Date

Mary Lee Lawrence Print Name

Received stamp

Signature Date

Office of Oil and Gas WV Dept. of Environmental Protection

05/16/2014

WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Kanawha  
Operator Shale Gas Production, LLC Operator's Well Number W.H. Lawrence #1

INSTRUCTIONS TO COAL OPERATOR, OWNER, OR LESSEE

To the coal operator, owner, or lessee named on page WW2-A. You are hereby notified that any objection you wish to make or are required to make by WV Code 22-6-15, 16 or 17, must be filed with the Chief of the Office of Oil and Gas within fifteen (15) days after the receipt of this application by the Office. Mail objections to:

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 926-0499 extension 1654

WAIVER

The undersigned coal operator \_\_\_\_\_ / owner \_\_\_\_\_ / lessee \_\_\_\_\_ / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

FOR EXECUTION BY A NATURAL PERSON

FOR EXECUTION BY A CORPORATION, ETC.

_____	Date _____	Company Name _____	_____
Signature		By _____	_____
		Its _____	Date _____
		Signature _____	Date _____

No known owner, operator, or lessee of workable coalbed/seam on this tract.

Received

MAY - 6 2014

Office of Oil and Gas  
WV Dept. of Environmental Protection  
05/16/2014

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6, Section 8(d)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Wallace H. Lawrence & Mary Lee Lawrence	Shale Gas Company	1/8	LB 191/742
Assignment of lease: Shale Gas Company	Shale Gas Production, LLC		AB 242/323

**Acknowledgement of Possible Permitting/Approval  
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources
- WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: \_\_\_\_\_  
 By: Its: \_\_\_\_\_  
 Shale Gas Production, LLC  
 Managing Member

Received  
 MAY - 6 2014  
 Office of Oil and Gas  
 WV Dept. of Environmental Protection  
 05/16/2014



WW-9  
(5/13)

Page \_\_\_\_\_ of \_\_\_\_\_  
API Number 47 - 39 - 2727  
Operator's Well No. WH Lawrence # 1

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Shale Gas Production, LLC OP Code \_\_\_\_\_

Watershed (HUC 10) Woodward Branch Quadrangle Pocatalico

Elevation 936 County Kanawha District Union

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes \_\_\_\_\_ No

Will a pit be used for drill cuttings? Yes \_\_\_\_\_ No

If so, please describe anticipated pit waste: fresh water

Will a synthetic liner be used in the pit? Yes  No \_\_\_\_\_ If so, what ml.? 20

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection ( UIC Permit Number \_\_\_\_\_ )
- Reuse (at API Number \_\_\_\_\_ )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain \_\_\_\_\_)

*Handwritten note in a circle:*  
TW  
5-2-14

Will closed loop system be used? N/A

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. Air

-If oil based, what type? Synthetic, petroleum, etc. \_\_\_\_\_

Additives to be used in drilling medium? \_\_\_\_\_

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Leave in pit, no drill cuttings anticipated

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) Soil/dirt

-Landfill or offsite name/permit number? \_\_\_\_\_

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature [Signature]

Company Official (Typed Name) J. Scott Freshwater

Company Official Title Managing Member

Received

MAY - 5 2014

Subscribed and sworn before me this 29<sup>th</sup> day of April, 20 14

David N. Brannon

Notary Public

My commission expires December 10, 2017

Office of Oil and Gas  
WV Dept. of Environmental Protection

05/16/2014

Form WW-9

Operator's Well No. W.H. Lawrence #1

Proposed Revegetation Treatment: Acres Disturbed 1.5 Prevegetation pH 5.5

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 0.25 lbs/acre (500 lbs minimum)

Mulch Hay 2 Tons/acre

Seed Mixtures

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
Orchard Grass	25	Ladino Clover	5
Red Top Clover	15	KY 31	40

Attach:  
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Title: Inspector M. E. Lewis

Date: 5-2-14

Field Reviewed? (  ) Yes (  ) No

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MAY - 6 2014  
Office of Oil and Gas  
WV Dept. of Environmental Protection

05/16/2014

NOTE:

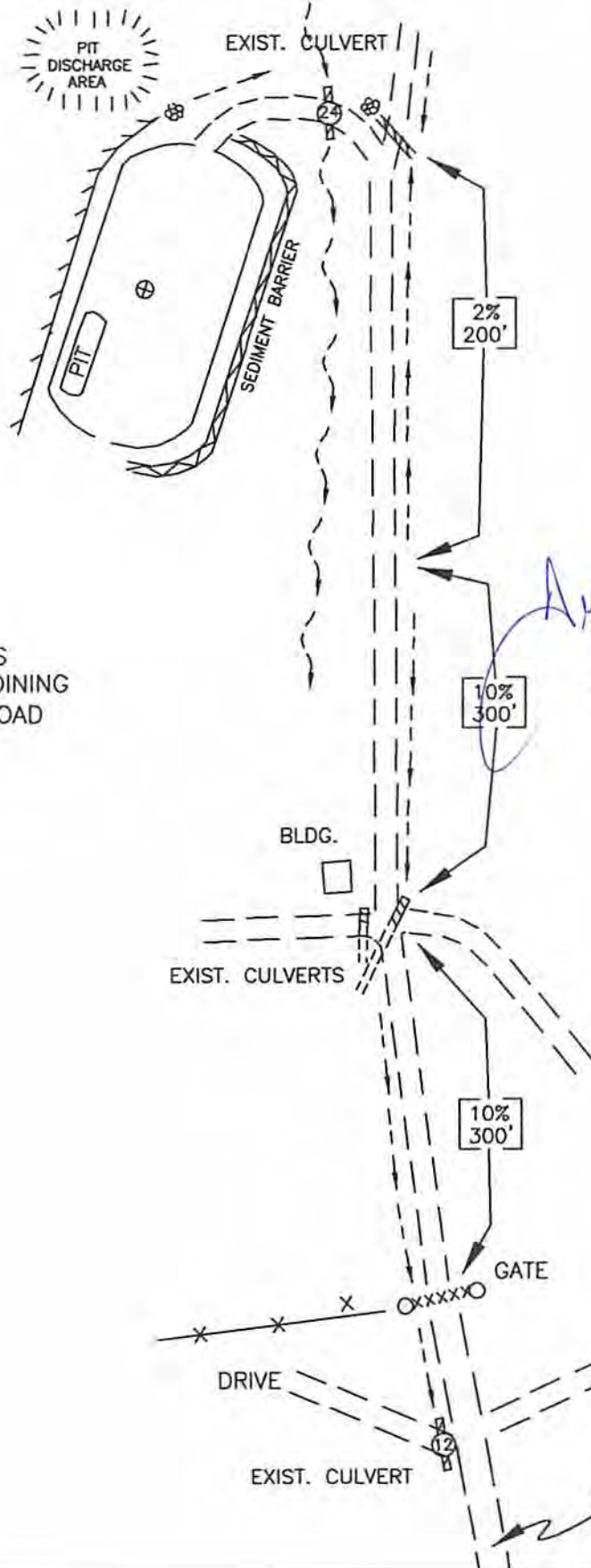
Any Trees 6" or larger in Diameter will be cut and piled. Brush will be used as Sediment Barriers. Temporary seed and mulch all slopes upon construction. Stone over all Culverts and entrance off existing roadway.

W.H. LAWRENCE

#1

NOTE:

PIT SIZE: 25'X80' +/-  
LOCATION SIZE: 100'X200' +/-



NOTE:

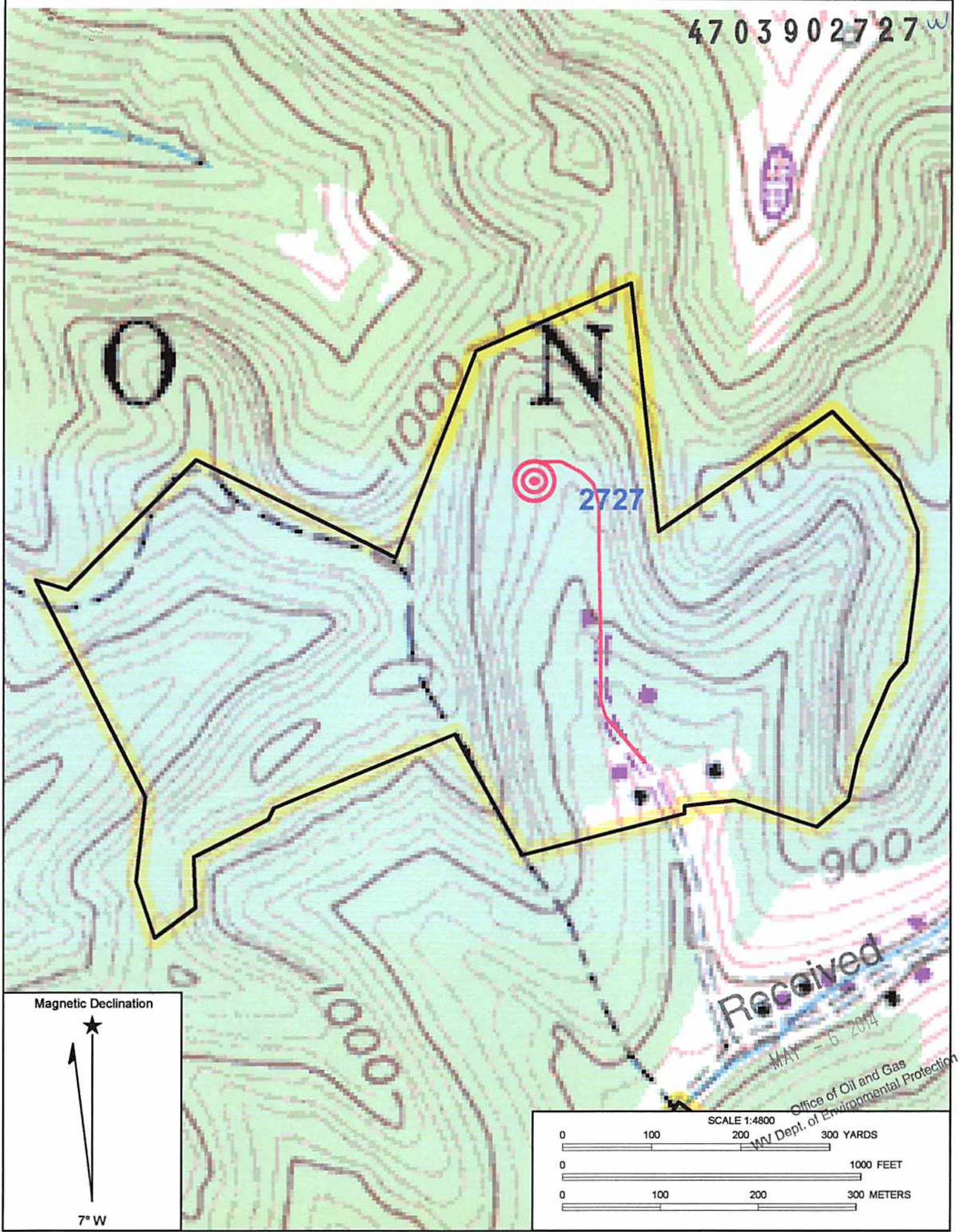
ALL WELL ROAD SHOWN IS EXISTING ACCESS TO ADJOINING PROPERTIES AND WELL. ROAD WILL BE UPGRADED AND MAINTAINED.

Received

MAY - 6 2014

SEC. RT. 28/8  
CANTERBURY WOOD DR.  
Office of Oil and Gas  
of Environmental Protection  
WV Dep.

4703902727 W

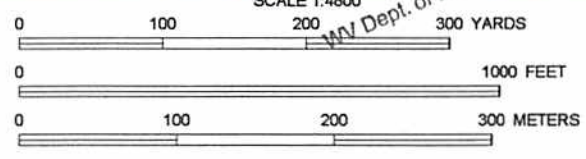


Magnetic Declination

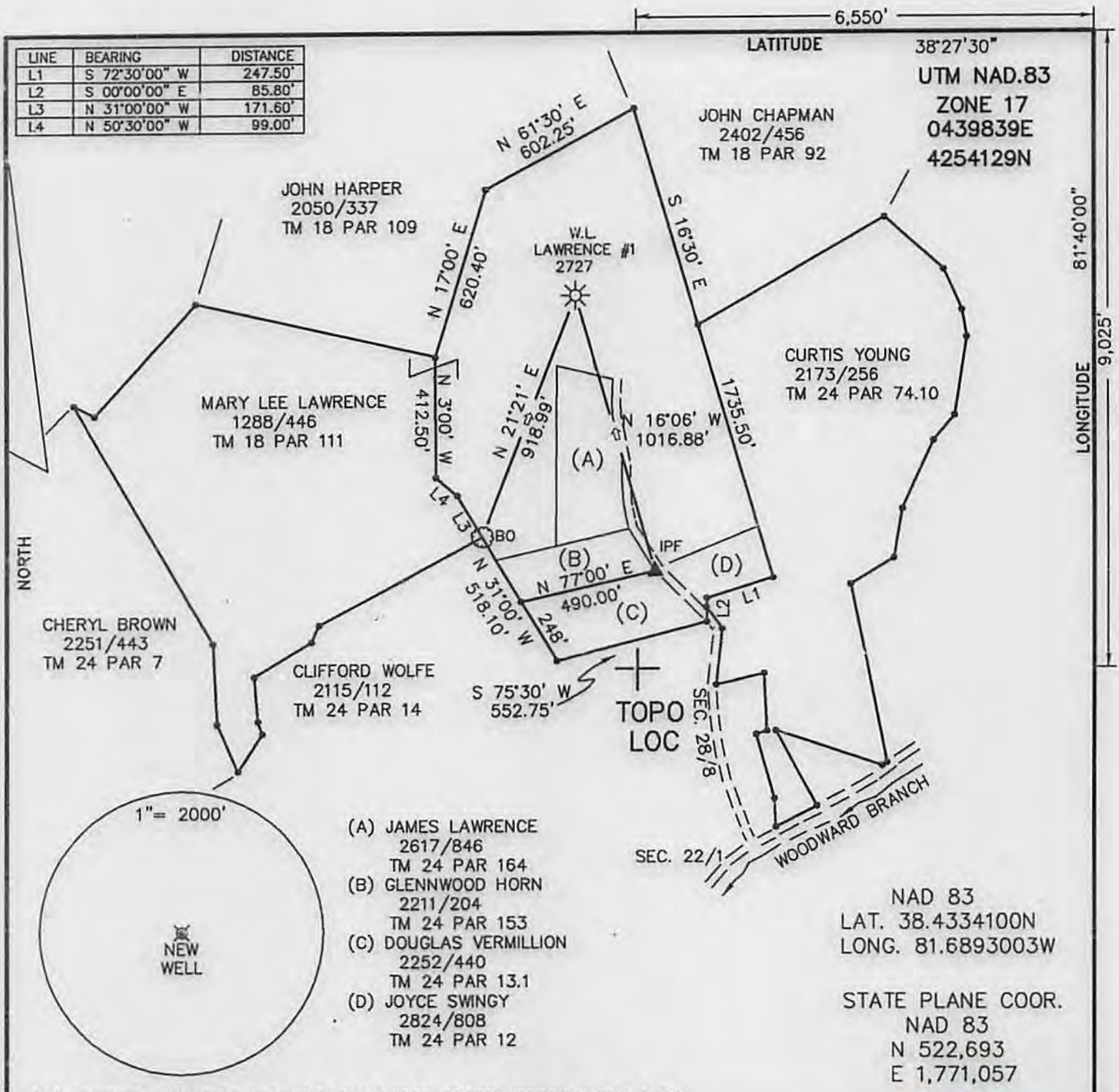


7° W

SCALE 1:4800



LINE	BEARING	DISTANCE
L1	S 72°30'00" W	247.50'
L2	S 00°00'00" E	85.80'
L3	N 31°00'00" W	171.60'
L4	N 50°30'00" W	99.00'



- (A) JAMES LAWRENCE  
2617/846  
TM 24 PAR 164
- (B) GLENNWOOD HORN  
2211/204  
TM 24 PAR 153
- (C) DOUGLAS VERMILLION  
2252/440  
TM 24 PAR 13.1
- (D) JOYCE SWINGY  
2824/808  
TM 24 PAR 12

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. \_\_\_\_\_  
 DRAWING NO. 14-3  
 SCALE 1"=500'  
 MINIMUM DEGREE OF ACCURACY 1 IN 200  
 PROVEN SOURCE OF ELEVATION GPS

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.

(SIGNED) \_\_\_\_\_  
 R.P.E. \_\_\_\_\_ P.S. 851



STATE OF WEST VIRGINIA  
 Department of Environmental Protection  
 OFFICE OF OIL AND GAS

DATE 3/7, 20 14  
 OPERATOR'S WELL NO. W.H.LAWRENCE #1  
 API WELL NO. \_\_\_\_\_

WELL TYPE: OIL \_\_\_\_\_ GAS X LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_  
 (IF "GAS") PRODUCTION X STORAGE \_\_\_\_\_ DEEP \_\_\_\_\_ SHALLOW X

LOCATION: ELEVATION 936 WATER SHED WOODWARD BRANCH  
 DISTRICT \_\_\_\_\_ UNION \_\_\_\_\_ COUNTY KANAWHA  
 QUADRANGLE POCATALICO

SURFACE OWNER MARY LEE LAWRENCE ACREAGE 26.38  
 OIL & GAS ROYALTY OWNER W.H. LAWRENCE HEIRS LEASE ACREAGE 88.25  
 LEASE NO. \_\_\_\_\_

PROPOSED WORK: DRILL \_\_\_\_\_ CONVERT \_\_\_\_\_ DRILL JEEPER \_\_\_\_\_ REDRILL \_\_\_\_\_ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION \_\_\_\_\_ PERFORATE NEW FORMATION \_\_\_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY): PULL TUBING & RUN 4 1/2"

PLUG AND ABANDON \_\_\_\_\_ CLEAN OUT AND REPLUG \_\_\_\_\_

TARGET FORMATION SHALE ESTIMATED DEPTH 4290  
 WELL OPERATOR SHALE GAS PRODUCTION LLC DESIGNATED AGENT J. SCOTT FRESHWATER  
 ADDRESS 929 CHARLESTON ROAD ADDRESS 929 CHARLESTON ROAD  
SPENCER, WV 25276 SPENCER, WV 25276

05/16/2014

LINE	BEARING	DISTANCE
L1	S 72°30'00" W	247.50'
L2	S 00°00'00" E	85.80'
L3	N 31°00'00" W	171.60'
L4	N 50°30'00" W	99.00'

NORTH

CHERYL BROWN  
2251/443  
TM 24 PAR 7

MARY LEE LAWRENCE  
1288/446  
TM 18 PAR 111

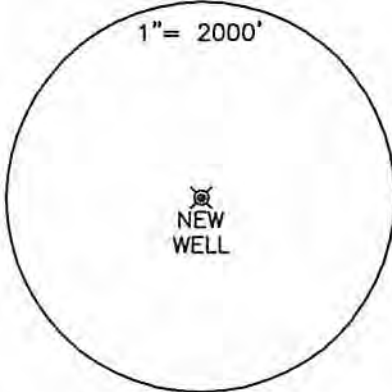
JOHN HARPER  
2050/337  
TM 18 PAR 109

CLIFFORD WOLFE  
2115/112  
TM 24 PAR 14

JOHN CHAPMAN  
2402/456  
TM 18 PAR 92

CURTIS YOUNG  
2173/256  
TM 24 PAR 74.10

W.L. LAWRENCE #1  
2727



- (A) JAMES LAWRENCE  
2617/846  
TM 24 PAR 164
- (B) GLENNWOOD HORN  
2211/204  
TM 24 PAR 153
- (C) DOUGLAS VERMILLION  
2252/440  
TM 24 PAR 13.1
- (D) JOYCE SWINGY  
2824/808  
TM 24 PAR 12

TOPO  
LOC

SEC. 28/8  
WOODWARD BRANCH

6,550'

LATITUDE 38°27'30"

UTM NAD.83  
ZONE 17  
0439839E  
4254129N

LONGITUDE 81°40'00"

NAD 83  
LAT. 38.4334100N  
LONG. 81.6893003W  
STATE PLANE COOR.  
NAD 83  
N 522,693  
E 1,771,057

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. \_\_\_\_\_  
DRAWING NO. 14-3  
SCALE 1"=500'  
MINIMUM DEGREE OF  
ACCURACY 1 IN 200  
PROVEN SOURCE OF  
ELEVATION GPS

I THE UNDERSIGNED, HEREBY CERTIFY THAT  
THIS PLAT IS CORRECT TO THE BEST OF MY  
KNOWLEDGE AND BELIEF AND SHOWS ALL THE  
INFORMATION REQUIRED BY LAW AND THE REGU-  
LATIONS ISSUED AND PRESCRIBED BY THE DEPART-  
MENT OF ENERGY.  
(SIGNED) \_\_\_\_\_  
R.P.E. \_\_\_\_\_ P.S. 851



STATE OF WEST VIRGINIA  
Department of Environmental Protection  
OFFICE OF OIL AND GAS

DATE 3/7, 2014  
OPERATOR'S WELL NO. W.H.LAWRENCE #1  
API WELL NO. 47 - 039 - 02727W  
STATE COUNTY PERMIT

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
(IF "GAS") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X

LOCATION: ELEVATION 936 WATER SHED WOODWARD BRANCH  
DISTRICT UNION COUNTY KANAWHA  
QUADRANGLE POCATALICO

SURFACE OWNER MARY LEE LAWRENCE ACREAGE 26.38  
OIL & GAS ROYALTY OWNER W.H. LAWRENCE HEIRS LEASE ACREAGE 88.25  
LEASE NO. \_\_\_\_\_

PROPOSED WORK: DRILL \_\_\_ CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR  
STIMULATE X PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW  
FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY): PULL TUBING & RUN 4 1/2"

PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_

TARGET FORMATION SHALE ESTIMATED DEPTH 4290  
WELL OPERATOR SHALE GAS PRODUCTION LLC DESIGNATED AGENT J. SCOTT FRESHWATER  
ADDRESS 929 CHARLESTON ROAD ADDRESS 929 CHARLESTON ROAD  
SPENCER, WV 25276 SPENCER, WV 25276

05/16/2014

Office of Oil and Gas  
Department of Environmental Protection

WW-2B1  
(5-12)

Well No. W.H. Lawrence #1

West Virginia Department of Environmental Protection  
Office of Oil and Gas

NOTICE TO SURFACE OWNERS

The well operator named below is preparing to file for a permit from the state to drill a new well. Before a well work permit can be filed with the Chief of the Office of Oil and Gas, the well operator is required to have given notice of the right to request water well or spring analytical testing. This notice shall be given to the owners or occupants of land which have a water well or spring being utilized for human consumption, domestic animals, or other general use and which is located within 1000 feet of the proposed well site.

With this form, the operator is giving you notice of your right to request analytical testing. The operator is required to sample and analyze the water wells or springs of all owners or occupants who request it. Therefore, if you wish to have your water well or spring tested, contact the operator named below.

All sampling shall be completed prior to drilling. Within thirty (30) days of the receipt of such sample analyses the operator shall submit the results to the Chief of the Office of Oil and Gas and to the owners or occupants who may have requested them.

Be advised, you have the right to sample and analyze any water supply at your own expense.

Listed below is the laboratory chosen by operator to perform analysis, and contractor chosen to collect sample.

Certified Laboratory Name ALS Environmental Lab  
Sampling Contractor \_\_\_\_\_

Well Operator Shale Gas Production, LLC  
Address 929 Charleston Road  
Spencer, WV 25276  
Telephone 304-927-5228

FOR OPERATOR'S USE ONLY: Below, or on an attached page, list those persons which were given this notice. Place an asterisk beside the one(s) that contacted you and requested sampling and analyses. If there were no requests made, indicate by underling which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site, the Chief may require the operator to test wells up to 2000 feet from the proposed site.

*See Attached.*

Received

MAY 16 2014

Office of Oil and Gas  
WV Dept. of Environmental Protection

05/16/2014

Well Information/Potential Water Well Sample Sheet  
 Operator: Shale Gas Production  
 Well Number:

**Shale Gas Production, LLC**

**Well Information / Potential Water Well Sample Data Sheet**

Operator: **Shale Gas Production, LLC**

Lease Name and Number: **WH Lawrence #1**

**Comments**

The initial mapping review of the area surrounding the proposed well site revealed the below listed surface owner (s) that were potentially utilizing groundwater (potable) for human consumption or other purposes within one thousand (1,000) feet of the proposed well site. The following landowners have been notified of the opportunity to request a water sample should it be necessary.

Please note that the following information is subject to change upon field inspection

**Individual Contacted or Notified**

Owner / Occupant: Mary Lawrence 304-744-8868

Address: 434 Canterbury Woods Drive, Charleston, WV 25312

Letter/Notice Date: 4/28/14

Comments: Has Water Well-uses for drinking water- Get Sample

Owner / Occupant: Doug Vermillion

Address: 31 Gold Meadow Road

Letter/Notice Date: 4/28/14

Comments: Has water well-only source- Get Sample

Owner / Occupant: Glen Horn

Address: 429 Canterbury Woods Drive

Letter/Notice Date 4/28/14

Comments: Water well-not in use.

Received

MAY -6 2014

Office of Oil and Gas  
 WV Dept. of Environmental Protection

05/16/2014



## Well Information/Potential Water Well Sample Sheet

Operator: Shale Gas Production

Well Number:

Owner / Occupant:

Address: 357 Canterbury Woods Drive, Charleston, WV 25312Letter/Notice Date: 4/28/14Comments: Posted on door

Owner / Occupant:

Address: 368 Canterbury Woods DriveLetter/Notice Date: 4/28/14Comments: No Well

Owner / Occupant:

Address: 246 Canterbury Woods DriveLetter/Notice Date: 4/28/14Comments: Posted on doorOwner / Occupant: Brown House on hill by 368 CanterburyAddress: Canterbury Woods Drive, Charleston, WV 25312Letter/Notice Date: 4/28/14Comments: Posted on door

Owner / Occupant:

Address: 3 Gold Meadow Road (white & blue house)Letter/Notice Date: 4/28/14Comments: posted on door

Received

MAY - 5 2014

Office of Oil and Gas  
WV Dept. of Environmental Protection

05/16/2014

Well Information/Potential Water Well Sample Sheet

Operator: Shale Gas Production

Well Number:

Owner / Occupant:

Address: 311 Canterbury Woods Drive (white trailer/blue shutters)

Letter/Notice Date 4/28/14

Comments: posted on door

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Owner / Occupant:

Address: 302 Canterbury Woods Drive

Letter/Notice Date 4/28/14

Comments: No well

Received  
MAY - 6 2014  
Office of Oil and Gas  
WV Dept. of Environmental Protection

05/16/2014